CLAIMS

What is claimed is:

1. A thermal image generation device comprising:

a casing forming an interior cavity, one surface of the casing including a screen;

a thermochromic material attached to the screen; and

at least one thermal transfer element movable over regions of the thermochromic material to alter a temperature at the regions from a steady-state, ambient temperature which temporarily causes a color variation of the thermochromic material until the regions of the thermochromic material return to the ambient temperature.

2. The thermal image generation device of claim 1 further comprising:

a driving circuit to adjust at least one of voltage and current for controlling activation and deactivation of the at least one thermal transfer element; and

mechanical logic to control placement of the at least one thermal transfer element bounded by a perimeter formed by the thermochromic material.

3. The thermal image generation device of claim 2, wherein the at least one thermal transfer element is a resistor.

4. The thermal image generation device of claim 2, wherein the mechanical logic is a roller assembly controlling placement.

5. The thermal image generation device of claim 4, wherein the at least one thermal transfer element is an array of thermal elements having a fixed X-axis placement and a varying Y-axis placement controlled by the roller assembly.

6. The thermal image generation device of claim 1, wherein the at least one thermal transfer element is a combination of filters and lenses to produce a light beam.

7. The thermal image generation device of claim 2 further comprising

a processor coupled to the driver circuit and the mechanical logic; and

a sensor coupled to the processor, the sensor to monitor a temperature of the at least one thermal transfer element and to feedback data to the processor to enable the processor to control the driving circuit and the mechanical logic.

8. A thermal image generation device comprising:

a casing forming an interior cavity, one surface of the casing including a component embedded with thermochromic material; and

logic placed within the interior cavity, the logic including a thermal transfer element movable over regions of the component to alter a temperature at the regions from a steady-state, ambient temperature which temporarily causes a color variation of the thermochromic material until the regions of the thermochromic material return to the ambient temperature.

9. The thermal image generation device of claim 8, wherein the component is a screen.

10. The thermal image generation device of claim 8, wherein the component is a button on a toy product.

11. The thermal image generation device of claim 8, wherein the logic further comprises

a driving circuit to adjust at least one of voltage and current for controlling activation and deactivation of the thermal transfer element; and

mechanical logic to control placement of the thermal transfer element bounded by a perimeter formed by borders of the component.

12. The thermal image generation device of claim 11, wherein the thermal transfer element of the logic is a resistor.

13. The thermal image generation device of claim 11, wherein the mechanical logic is a roller assembly.

14. The thermal image generation device of claim 13, wherein the thermal transfer element of the logic is an array of thermal elements having a fixed X-axis placement and a varying Y-axis placement controlled by the roller assembly.

15. The thermal image generation device of claim 11, wherein the logic further comprises

a processor coupled to the driver circuit and the mechanical logic; and

a sensor coupled to the processor, the sensor to monitor a temperature of the thermal transfer element and to feedback data to the processor to enable the processor to control the driving circuit and the mechanical logic.

16. A method comprising:

activating at least one thermal transfer element in response to a condition;

monitoring a region of a thermochromic material in close proximity to the at least one thermal transfer element in order to (i) determine if a temperature at the region varies from an ambient temperature by a selected temperature difference, causing the thermochromic material to experience a color variation, and (ii) determine if the temperature at the region exceeds a maximum temperature; and

deactivating the at least one thermal transfer element if the temperature at the region exceeds the maximum temperature.

17. The method of claim 16, wherein the monitoring of the region of the thermochromic material further includes determining if the temperature at the region falls below a minimum temperature.

18. The method of claim 17 further comprising:

deactivating the at least one thermal transfer element if the temperature at the region falls below the minimum temperature.

19. The method of claim 16, wherein the condition is a depression of a button of a product including the thermochromic material.

20. The method of claim 16, wherein the thermochromic material is a film placed over a screen of a writing tablet.